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ABSTRACT

To aid the development of criteria to guide high school curriculum planners and teachers, data for 160 jobs covering six different positions with 112 employers were gathered in 428 executive-employee-supervisor interviews in a 21-county area in northern Mississippi. Based on an analyses of the activities and duties of the six positions according to functional categories and in terms of basic knowledge, skills, and understanding, these conclusions were made: (1) There is a need to know how to cope with business operational problems that affect and concern employees and customers, (2) In all the beginning and trainee positions, there is a need to know something of the importance of and how to provide information essential to the financial records, including data relevant to cost controls and tax reports, (3) It is advantageous to have a marketing orientation to facilitate an understanding of the importance of sales and their essential supporting services, and (4) Communicative, calculating-checking-verifying and recording skills were needed for all the positions studied. (SB)

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BUSINESS OCCUPATIONAL PROFILES IN AN AGRICULTURAL ECONOMY

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School of Business Administration

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AN INVESTIGATION TO DETERMINE THE KNOWLEDGE, SKILLS, AND ATTITUDES ESSENTIAL TO SATISFACTORY PERFORMANCE AT THE JOB ENTRY LEVEL AS OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL IN RURAL-URBAN AREAS

Short Title: BUSINESS OCCUPATIONAL PROFILES IN AN AGRICULTURAL ECONOMY

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PREFACE

This investigation was made to gather information relevant to business practices that would aid in the development of criteria to guide high school curriculum planners and teachers. Data were sought that could help them to devise and implement programs realistically tailored to the rural-urban areas served by those included in this study.

The data were gathered primarily by research-minded business educators who were sufficiently interested in the possibilities afforded in this study to contribute their time and energies for this purpose. They are to be commended for their professional commitments in the interest of developing improved services through business education research. The assistance of these cooperating colleagues and the participating firms is gratefully acknowledged. The leadership which these business teachers, counselors, and business executives have exercised may serve to encourage others to "go forth and do likewise."

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CHAPTER I

THE PROBLEM

Business education at the high school level has for some years concentrated its efforts primarily on the communicative skills, i.e., shorthand and typewriting, and the recording functions. In the case of records, this knowledge most commonly has been taught in bookkeeping and filing courses. Supporting basic subjects, such as business arithmetic and business English, have provided essential foundations, and such courses as general business and office practice have been given for the development of perspective and to integrate the communicative and recordkeeping skills.

For a variety of reasons, programs in business education have followed plans that have been well suited to the preparation of graduates to work in larger offices where specialization is economically feasible. Because of the perspective offered from the basic premises around which such courses have been given, there may need to be considered some possibilities for other options and opportunities for service. Among the possible options are the specific needs for beginning office employees in the smaller firms in a rural-urban economy. Additional opportunities for service would also seem to exist in the relatively untouched area of lower echelon administrative or management trainees. Whether or not there is sufficient uniqueness in these concepts has given impetus to this investigation.

Statement of the Problem

The purposes of this study examining 160 employees in office, administrative, and/or management trainee positions in North Mississippi[1] were:

1. To determine characteristic activities, duties, knowledge, skills, attitudes, and understandings required for beginning office, administrative, and/or management trainee employees in these job entry positions not requiring an education beyond high school.

    a. Accountants or bookkeepers
    b. Clerks (office)
    c. Clerks (sales)
    d. Secretaries
    e. Stenographers
    f. Administrative or management trainees

---

1. With the exception of one position in Charlotte, NC, the data represent findings relevant to Mississippi employer requirements.

2. To provide criteria that reflect current business practices which high school administrative and teaching personnel can use to up-date the relevancy of existing programs.

3. To seek evidence that might aid in the development of an option in business education which is not now available.

4. To involve business and other vocational teachers and counselors in a meaningful research dialogue with the business communities served by their institutions.

5. To enlist the services of business executives and employees to help find ways to improve high school business education programs.

Definition of Terms

Administrative or management trainee employees are workers who have been identified by executive personnel as being groomed for or who are actually holding first echelon types of management responsibilities. While titles can be and are flexible, some of the prefixes are common, i.e., assistant--assistant foreman, assistant buyer, assistant shipping clerk. These few may serve partially to illustrate the broad group who are included in this category.

Beginning office or management trainee employees are persons who have had from 0-6 months experience in positions for which they were employed.

Delimitations

Data for this study were confined to those sources that could be cooperatively acquired through voluntary working agreements with faculty members in schools in northern Mississippi.[1] The 21 target counties were selected solely on the basis of operational feasibility factors--time and money.

No attempt was made to control the selection of employer types according to a Standard Industrial Classification or size. Nor was there any field directive aimed toward getting proportionate inputs in terms of the six job categories used. Additionally, no effort was made to arrive at any particular ratios of male-female employee interviews.

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1. One geographical exception previously noted (Charlotte, NC).

Primarily, though not exclusively, the employees sought for interviews were those who had been out of high school five years or less. Essentially, these employees had no more than a high school education with a few minor exceptions.

Basic Assumptions

1. It was assumed that existing job profiles may not adequately provide some essential detail needed for high school business education program development.

2. It was assumed that some of the current business practices criteria used in high schools lack relevancy.

3. It was assumed that low percentages of male enrollments as business education majors in high schools were prima-facie evidence that these programs have little in them to appeal to young men.

4. It was assumed that involving vocational teachers and counselors in an action research project in their business communities would provide a dynamic experience beneficial to the participants, their students, their schools, their communities.

5. It was assumed that business executives would be sufficiently interested in research aimed toward reducing their costs to be willing to cooperate to facilitate the investigation.

CHAPTER II

RELATED LITERATURE

Of the significant studies made in the past five years, five major contributions to the field are cited. These include one independent publication (by Erickson) which was a segment of a larger investigation (NOBLES, directed by Lanham).

Dr. Dean R. Malsbary, University of Connecticut, directed "A Study Of Beginning Office Workers In Connecticut." This work, which was concluded in 1967, answers with statistical parameters and descriptive detail these basic questions.[1]

1. What are the characteristics of the major employers?
2. Who are the beginning office workers (descriptively) and what is their background?
3. What is the work performed by the beginning office employee?
4. What knowledge, skills, and other characteristics are needed by beginning office employees?

Malsbary identified 130 major employers in Connecticut, 85 (65 percent) of these agreeing to cooperate in his study. From these companies, his five research assistants interviewed 522 beginning office workers.[2] These input data came from Standard Industrial Classifications in the following order: Finance, Insurance, and Real Estate, 47 percent; Manufacturing, 40 percent; Service, 1 percent; Utilities, 10 percent; Wholesale, Retail, 2 percent.[3]

Of those included in this study, 96 percent were female and 90 percent were under 22 years old. More than 80 percent graduated from a public high school in Connecticut with only 25 percent having taken any courses beyond high school.[4]

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1. Dean R. Malsbary, A Study Of Beginning Office Workers In Connecticut, University of Connecticut, 1967, pp. 114-120.

2. The 1960 Connecticut total employment figures are reported as 1,010,444, clerical employment being 162,437, 16 percent of the total. These 522 cases represented five one-hundredths of one percent (.05%) of the total labor force and approximately three-tenths of one percent (.3%) of the clerical force.

3. Malsbary, op. cit., p. 44.

4. Ibid., p. 42, 116.

Clerical and machine operation comprised 77 percent of the positions studied. Stenographic and secretarial accounted for 9 percent; bookkeeping and computational, 9 percent; customer contact, 5 percent.[1]

Among Malsbary's summary statements were these, which he said "...appear to be needed, regardless of the job family in which the worker's job is classified. These included: How to write numbers legibly...spell correctly...do basic arithmetic."[2] He cited two personal characteristics as being especially important to job success: Accuracy in the work and a sense of reponsibility. Other characteristics indicated as important were: Regularity of attendance, dependability, neatness of work, being well organized, and ability to work well with supervision.[3]

In his 1968 report on findings relating to automated data processing from 353 businesses in 39 states, drawn from a population of 28,000 businesses, Dr. F. Kendrick Bangs, University of Colorado, wrote, "Communication skills, both oral and written, are demanded of data processing personnel. Both...management...and...employees ...recognize a weakness...which is not being remedied by our educational institutions."[4]

In Dr. Anna Mahaffey's study of changing occupational skills and requirements needed by office employees in Illinois, she offered some guidelines that merit consideration for curriculum development. Her essential theme was a reiteration of a number of long-accepted, but perhaps limitedly practiced, principles. "Curriculum," she stated, "must be based on current job standards and the initial need of workers in specific local occupations."[5] She also added, "Counselors must be made aware of the objectives and the scope of business education; business teachers must avail themselves of testing and guidance services."[6] One of the more

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1. Ibid., p. 45.

2. Ibid., p. 120.

3. Ibid., p. 119.

4. F. Kendrick Bangs, Curricular Implications of Automated Data Processing for Educational Instructions, University of Colorado, 1968, p. 11.

5. Anna Mahaffey, Changing Occupational Skills and Requirements Needed by Office Employees and Technological Development in Office Equipment and Procedures and Implications for Office Education in the Seventies, University of Illinois, 1969, p. V-9.

6. Loc. cit.

cogent of Mahaffey's observations was in her treatment of the questions of programs for students with special needs. "Potential dropouts can be directed when the teacher offers alternatives. Alternatives in the form of special courses must necessarily begin with the individual."[1] Implicit in this statement, of course, is that the administration has provided flexible means for the faculty to offer alternative options. In dealing with personality development she wrote, "The ability to communicate and to interact successfully with people, to accept responsibility, and to be capable of leadership is developed not by talking about these qualities but through opportunities to practice them."[2]

Dr. Frank W. Lanham, Wayne State University, was the project director for "Development Of Performance Goals For A New Office And Business Education Learning Systems." Published in 1970, this study developed "...an inventory of 375 educational specifications in behavioral terms that represent basic tasks performed by 16-24 year old office workers." These data were collected in interviews with 1,232 office employees by "A consortium of five institutions with contracts through the Center for Research and Leadership Development in Vocational and Technical Education..."[3] Eighty-one percent of these interviews came from employers having 100 plus employees.[4] In summary, for emphasis Lanham repeated three fundamentals as recommendations to "...be inserted immediately in all current instruction leading to office job preparation."[5] One, require "absolute accuracy." Two, develop oral and written "communication skills adequate to instruct others or to modify office actions..." Three, teach organizing and classifying numerical and verbal data.[6] Then he added, "The number of interaction critical incidents reflecting 'thin-skinned,' angry workers almost caused us to add a 'fundamental' related to social graciousness in dealing with people within and without the business organization."[7]

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1. Ibid., p. V-10.

2. Ibid., p. V-11.

3. Frank W. Lanham, Development Of Performance Goals For A New Office and Business Education Learnings System, Ohio State University, 1970, p. 31.

4. Ibid., p. 33.

5. Ibid., p. 291.

6. Loc. cit.

7. Ibid., p. 292.

Dr. Lawrence W. Erickson, Dean, UCLA Graduate School of Education, reported on his responsibility in NOBELS in Basic Components of Office Work--An Analysis of 300 Office Jobs, South-Western Monograph 123, May, 1971. In his summary of findings Erickson identified these important components.[1]

	Basic Components of Office Work (5% or More of Total Job Time)	Percent of 300 Jobs in Which Component Occurred
1.	Communicating with Others (Interpersonal Relations)	90%
2.	Sorting, Filing, and Retrieving	71%
3.	Typewriting	49%
4.	Checking, Computing, and Verifying	47%
5.	Collecting and Distributing	21%
6.	Operating Business Machines (other than typewriter and ADP equipment)	18%
7.	Operating Automatic Data Processing Equipment (ADP)	14%
8.	Taking Dictation	10%
9.	Supervising, Planning, and Training	3%
10.	Analyzing Procedures and Flow Charting	3%

Among his conclusions and recommendations, he offered specifics for the development of communicating skills. These included providing being "...placed in situations where they have to engage in problem-solving activities."[2] He suggested that, "...they need to develop some concept of...cost..."[3] Erickson further emphasized a need to develop initiative and to provide students with "...opportunities to learn to cope with interruption, priority decisions, and the pressure of attending to several tasks in almost simultaneous sequence. They should see how their performance affects and is affected by others."[4] He also noted, "Working accurately under the pressure of time occurred with high frequency in the criteria."[5]

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1. Lawrence W. Erickson, Basic Components Of Office Work--An Analysis of 300 Office Jobs, South-Western Publishing Co., 1971, p. 22.

2. Ibid., p. 23.

3. Loc. cit.

4. Ibid., p. 27.

5. Ibid., p. 29.

In Erickson's concluding statement, he wrote, "...business education at the secondary school level...is concerned with problem-solving, decision-making, and action...In this way, the skills, knowledges, and attitudes needed by the worker in the business world are developed and refined."[1]

There is a growing awareness among educators that there are vocational fields of opportunity for those who plan to terminate their formal education at graduation from high school. In an interview with this investigator, Otis Fitzgerald, a production manager in the home office of Gregg Division, McGraw-Hill Book Co., made available a number of occupational cluster schematics. These drafts, developed by USOE/DVTE, illustrated the grade positioning of Pre-Vocational and exploratory experiences with "Operations" at the 7-9 grades. In each of the 12 clusters there are blocks to represent content concepts for the 10-12 grades. These "content blocks" include for high school level inputs "Management," "Mid-Management," "Supervision," and "Personnel."[2] The date on the revised drafts is 4-1-71. This evidence of some of the thinking of the educational leadership in the USOE/DVTE that the management concept needs consideration, exposure, and input at the high school level supports the hypothesis of this study.

In summary, these selected research reports from relatively recent major investigations give an insight to some of the thinking and evidence provided by some of the leaders in business education. Only a few of the common threads of needs for accuracy, communicative skills, and responsibility have been reported here. However, these may be sufficient to suggest that there appears to be a similar pattern woven into some of the fabric of these studies. The recurrence of the reported findings gives credence to the universality of the need for these characteristic requirements, talents, and traits.

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1. Ibid., p. 31.

2. R. Frank Harwood, Assisting Local Schools in Modifying Their Business Education Programs, The Plan--TRACK IV, University of Mississippi, 1972, p. 29.

CHAPTER III

PROCEDURES

Basically, there were five major steps involved in this investigation.

A. Determine the schools and personnel most appropriately qualified to become cooperating research associates.
B. Develop an appropriate data-gathering instrument.
C. Prepare the staff for the field phase of study.
D. Summarize, analyze, and report findings.
E. Make specific recommendations.

Preliminary field contacts were made with 117 high schools and academies in 31 counties in North Mississippi. Based on the research-minded attitudes of the administrators, vocational teachers, and counselors, local employment patterns, and time factors, letters of invitation were written and follow-up field visits were made. Twenty-six research associates were recruited in 19 high schools, 2 area vocational-technical schools, 1 junior college, and 1 senior college in 21 countries.[1]

Using earlier research of Malsbary,[2] Lanham,[3] and Erickson[4] with appropriate adaptations, extensions, and modifications, a 15-page data-gathering instrument was developed in September.[5]

Staff briefings and conference, field interview demonstrations, and simulated interviews were given as research associates were recruited from October, 1971, to April, 1972. The principal directive given to the research team in terms of the type of interview to seek was "...that which is representative for entry-level positions and/or positions available within five years of high school graduation." No quotas or ratios were set for SIC categories or positions. No attempt was made to select cases on any prescribed basis, i.e., randomly, stratified sample, or any other proportionate means. Each investigator selected employers who were cooperative and who in the judgment of the field worker were typical of his community.

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1. As one of the five area data collections directors for NOBELS, Dr. Herbert A. Tonne, State University of New York at Albany, used 38 field interviewers to get data for 252 cases. The average of 7 cases for each interviewer is coincidentally the same for this study.
2. Malsbary, op. cit., pp. 135-158.
3. Lanham, op. cit., pp. 302-307.
4. Erickson, op. cit., pp. 1,5.
5. Harwood, op. cit., pp. 31-45.

CHAPTER IV

FINDINGS

There were at least 310 note-recorded interviews by the principal investigator to:

1. Scout the territory;
2. Survey the prospects;
3. Recruit research associates;
4. Confer with educators and other consultants;
5. Lend assistance to the field efforts;
6. Evaluate other programs;
7. Facilitate the ongoing process of data collection and summary;
8. Disseminate some of the findings limitedly.

From 428 executive-employee-supervisor interviews involving 160 jobs with 112 employers covering one-tenth of one percent (.1%)[1] of the employed population in the 21-county North Mississippi area included in this study, data were gathered on 6 types of job entry positions, as shown in Table 1.

TABLE 1

DISTRIBUTION OF POSITIONS PROFILED

Position	Number	Percent
Accountants-Bookkeepers	34	21
Clerks (Office)	45	28
Clerks (Sales)	18	11
Secretaries	34	21
Stenographers	4	3
Administrative/Mgt. Trainees	25	16
	160	100

1. In the Erickson study, Basic Components of Office Work--An Analysis of 300 Office Jobs, the nonagricultural employment of the Los-Angeles-Long Beach area for 1968 was given as 2,794,200. This study was based on approximately one one-hundredth of one percent (.01%) of the employed population in the area.

The 21 counties in this study are 26 percent of Mississippi's 82-county governmental units, having 23 percent of the state's land area and 22 percent of the population.[1] Data for 24 of the 25 Mississippi cities indicate approximately 15 percent of the state's retail sales tax were collected in the markets included in this study.[2]

Table 2 shows the geographical distributions of the positions represented.

TABLE 2

BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL INTERVIEWED BY COUNTY IN WHICH EMPLOYED

County	Number	Percent of All Employees Interviewed
Alcorn	10	6.3
Attala	20	12.5
Calhoun	5	3.1
Desoto	3	1.9
Grenada	1	.6
Itawamba	7	4.4
Lafayette	8	5.0
Lee	36	22.4
Marshall	7	4.4
Monroe	4	2.4
Montgomery	1	.6
Panola	16	10.0
Pontotoc	5	3.1
Prentiss	5	3.1
Quitman	4	2.5
Tate	2	1.3
Tippah	6	3.8
Tishomingo	9	5.6
Union	6	3.8
Webster	2	1.3
Yalobusha	2	1.3
Mecklenburg, NC	1	.6
Total	160	100.0

1. Jack A. Corkran, Mississippi Statistical Abstract, Mississippi State University, April, 1971, pp. 40-53.

2. "City Sales Tax Collections, January, 1972," The Oxford Eagle, March 30, 1972.

According to the federal Standard Industrial Classification, the companies cooperating in this study are shown in Table 3.

TABLE 3

DISTRIBUTION OF EMPLOYEES ACCORDING TO STANDARD INDUSTRIAL CLASSIFICATION

Classification	Number	Percent
Finance, Insurance, Real Estate	32	20
Manufacturing	50	31
Service	18	11
Agri., Mining, Construction	2	1
Transp., Commun., Utilities	5	3
Wholesale, Retail	33	21
Education	11	7
Government	9	6
Total	160	100

For the 160 employees represented in this study, there was a ratio of one male to three females. This compares with a one to four male-female ratio in the Erickson study,[1] and a one to seven male-female ratio in the entire NOBELS investigation.[2] For the Malsbary study, the male-female ratio was one to nineteen. All of these studies were concerned exclusively with office occupations.[3] However, in the administrative/management category of this study there were 24 men to 1 woman.

The employees interviewed had a modal age of 20, a median age of 23, and a mean age of 21. The mean age for 1,232 workers in the NOBELS study was 21 with modal ages of 20 and 21.4. Typically, the case studied terminated formal education as a high school graduate. In terms of time on the job, the mode was 6 months; the median was 14 months; and the mean was 18 months.

1. Erickson, op. cit.

2. Lanham, op. cit.

3. Malsbary, op. cit.

4. Lanham, op. cit.

Employer Characteristics

The data in Table 4 show the sizes of the participating employers according to numbers of employees. It can be noted that more than half (53.1 percent) of these employers had fewer than 50 employees. Additionally, more than half (58.7 percent) of the employers included in this study had fewer than 10 beginning office and/or trainee employees. The modal employer had less than 25 employees with fewer than 5 office or administrative or management trainees. The modal and median employer had 2 beginning office and/or administrative or management trainee employees.

TABLE 4

SIZE OF PARTICIPATING EMPLOYERS AS MEASURED BY TOTAL NUMBER OF EMPLOYEES, BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL

Total Employees	Number of Employers[1]	Percent of Employers
24 or less	71	44.4
25 - 49	14	8.7
50 - 99	15	9.4
100 or more	60	37.5
	160	100.0
Office and A/M Trainees		
4 or less	61	38.1
5 - 9	33	20.6
10 - 19	33	20.6
20 or more	33	20.7
	160	100.0

The employers cooperating in this study had 2,425 office and/or trainee employees in the job entry positions investigated, those not requiring an education beyond high school. The distribution of these employees, according to job classification and sex is shown in Table 5. Annual additions or replacements for these

1. For this table, each employee interviewed was considered to have a separate employer.

positions are also given. To whatever extent these cases are representative, such data may provide a limited means by which to appraise a comparable educational market.

TABLE 5

BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL ACCORDING TO POSITION, SEX, AND ANNUAL ADDITIONS OR REPLACEMENTS

Classification	Number	Percent
Position		
Accountants or Bookkeepers	434	17.9
Clerks (office)	933	38.5
Clerks (sales)	340	14.0
Secretaries	263	10.8
Stenographers	70	2.9
Administrative or Management trainees	385	15.9
Total	2425	100.0
Sex		
Male	604	24.9
Female	1821	75.1
Total	2425	100.0
Annual Additions or Replacements		
Accountants or Bookkeepers	69	21.9
Clerks (office)	120	38.1
Clerks (sales)	62	19.7
Secretaries	25	7.9
Stenographers	13	4.1
Administrative or Management trainees	26	8.3
Total	315	100.0

1. These data concern only job entry positions not requiring an education beyond high school.

Profiles of Participating Employees

The employees included in this study reported no parttime or summer working experience prior to their present positions. Only a very limited number gave opinions relative to additional qualifications needed for advancement. Of those who did, 14 (21 respondents, 67 percent) said they needed additional education. The others (7, 33 percent), who offered this opinion, said that more experience on the job would be sufficient to qualify them for advancement.

The educational background by curriculum of 150 of the participating employees is shown in Table 6. The modal graduation year for 148 of these cases was 1970; the median year was 1966.

TABLE 6

HIGH SCHOOL CURRICULUM FOLLOWED BY BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL

Curriculum	Number	Percent of All Employees Interviewed
Business	62	41.3
College-Business	4	2.7
College Preparatory	5	3.3
General	2	1.3
Vocational-Technical	77	51.4
	150	100.0

The data show 149 courses taken by 52 percent of the participants after attending high school. Among the 28 courses listed, 66 percent of the enrollments were concentrated in 6 courses. The more popular courses included shorthand (15 percent of the enrollments), accounting or bookkeeping (14 percent), typewriting (14 percent), English (10 percent), business education (7 percent), and office machines (6 percent). These courses were taken in adult education programs (4 percent), business colleges (12 percent), junior colleges (43 percent), senior colleges (22 percent), company training (8 percent), correspondence schools (3 percent), and by other means (8 percent).

It may be helpful to look at the business courses taken in high school by the cases studied in this investigation. This information is presented in Table 7, excluding courses for which frequencies represented less than 7 percent of N (160 cases).

TABLE 7

BUSINESS COURSES TAKEN IN HIGH SCHOOL
BY BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT
TRAINEE PERSONNEL BY NUMBER OF SEMESTERS TAKEN

Course	Total		Number of Semesters Taken								
			1 Semester			2 Semesters			Over 2 Semesters		
	No	%N	No	%N	%n	No	%N	%n	No	%N	%n
Typewriting	144	90	0	0	0	131	82	91	13	8	9
Bookkeeping	98	60	0	0	0	98	60	100	0	0	0
Shorthand	82	51	0	0	0	80	50	98	2	1	2
Office Practice	34	21	0	0	0	34	21	100	0	0	0
Economics	33	21	33	21	100	0	0	0	0	0	0
Transcription	22	14	20	13	91	2	1	9	0	0	0
Business Math	21	13	16	10	76	5	3	24	0	0	0
Office Machines	21	13	17	11	81	4	2	19	0	0	0
Business English	12	7	10	6	83	2	1	17	0	0	0
Cooperative Bus Trng	12	7	0	0	0	12	7	100	0	0	0

NOTE: This table is read as follows: Of the 160 beginning office and administrative or management trainee employees interviewed, 144, or 90 percent, took typewriting in high school. Of the 144 who took typewriting, 131, or 82 percent of those included in the study, and 91 percent of those who took typewriting, took it for 2 semesters.

The employees cooperating in this investigation were asked to rank the business courses taken in high school. The order was to be identified from the most helpful on their current job to the least helpful. Table 8 gives this information in terms of the first-ranked subjects only.

TABLE 8

BUSINESS COURSES BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL TOOK IN HIGH SCHOOL THAT WERE JUDGED MOST HELPFUL ON THEIR JOBS

Course	Number Taking	Number Ranking First	Percent Ranking First
Typewriting	144	84	58
Bookkeeping	98	32	33
Shorthand	82	2	2
Office Practice	34	7	21
Economics	33	1	3
Transcription	22	0	0
Business Math	21	2	10
Office Machines	21	3	15
Business English	12	2	16
Cooperative Business Training	12	3	25
General Business	11	1	9

Because trying to schedule business vocational programs to accommodate the greatest number of needs seems to be an ongoing problem in high school, perhaps the information in Table 9 can be useful. In determining priority rankings, the criteria used in one setting are not necessarily applicable in another circumstance. Nevertheless, one of several criteria which may be considered is consumer judgment. Remember the old Buick slogan, "Ask the man who owns one"? Graduates whose consensus relegates some subjects to the lowest end of their priority scales have inputs that merit consideration from curriculum developers and teachers. These people have "bought a vehicle" and are offering testimony.

TABLE 9

BUSINESS COURSES[1] BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL TOOK IN HIGH SCHOOL THAT WERE FOUND LEAST HELPFUL ON THEIR JOBS

Course	Number Taking	Number Ranking Last	Percent Ranking Last
Typewriting	144	20	14
Bookkeeping	98	21	21
Shorthand	82	36	44
Office Practice	34	3	9
Economics	33	16	49
Transcription	22	8	37
Business Math	21	5	24
Office Machines	21	3	14
Business English	12	3	25
Cooperative Business Training	12	1	8
General Business	11	1	9

1. Only those subjects taken by at least 8 percent of the cases studied are tabulated.

In response to "What knowledge, skill(s), or understandings do you now need on this job that you did not develop in high school?", there are some leads that warrant attention. Table 10 provides a summary of these identified needs. To be reported in this table, the knowledge, skills, or understandings had to have a frequency of 10 percent or more in one of the 6 positions investigated. When this minimal frequency occurred, the findings in all other job classifications were reported. There were 99 high schools (77 Mississippi, 5 Alabama, 1 Arkansas, 2 Florida, 1 Minnesota, 2 Missouri, 1 New York, 1 North Carolina, 1 Oklahoma, 1 Pennsylvania, 4 Tennessee and 3 Wisconsin) which these employees last attended or from which they graduated.

TABLE 10

KNOWLEDGE, SKILLS, UNDERSTANDINGS NOW NEEDED
THAT WERE NOT ACQUIRED IN HIGH SCHOOL

Cases (n)	34 Acct. Bkkr		45 Clerk (Off)		18 Clerk (Sls)		34 Secy		4 Steno		25 Adm Mgt		(N) 160 Total	
	No	%n	No	%n	No	%n	No	%n	No	%n	No	%n	No	%n
Knowledge														
Communication	7	21	13	39	3	17	8	23	1	25	6	24	38	24
Acct-Bkkg-Rcrdkg	9	26	11	24	5	28	6	18	0	0	4	16	35	22
Deal with people	6	18	6	13	6	33	7	21	1	25	8	32	34	21
Business Orgniztn	4	12	10	22	1	6	5	15	0	0	3	12	23	14
Adv-Retailing-Sales	0	0	10	22	0	0	0	0	0	0	4	16	14	9
Skills														
Bus Machines (calc)	9	26	30	67	0	0	3	9	0	0	1	4	43	27
Dictaphone	0	0	1	2	0	0	7	21	0	0	0	0	8	5
Shorthand	0	0	7	16	0	0	0	0	0	0	0	0	7	4
Understandings														
Demands-Rewards (prodctvty, accuracy responsibility)	10	29	22	49	1	6	11	32	4	100	25	100	73	46
Purpose of business	16	47	16	36	4	22	2	6	2	50	9	36	49	30

Courses, other than business courses, taken in high school which have served advantageously in the entry level office and administrative or management trainee positions are shown in Table 11. Only those courses mentioned by 10 percent or more of the cases are included.

TABLE 11

OTHER HIGH SCHOOL COURSES WHICH
HAVE SERVED TO ADVANTAGE IN PRESENT POSITION

Course	No	%N
English (grammar)	146	90
Mathematics	112	70
English (composition)	81	51
Algebra	59	37
Home Economics	38	24
History	24	15
English (literature)	23	14
Geometry	22	14

In two "Monday morning quarterback" types of questions, "... which courses do you wish you had taken (other than business courses)..." and "If you were beginning high school again..." there were some clusters in the responses. In the first of these questions, "...which...do you wish you had taken...," 11 percent (17) identified English in various forms (including communication, speech, spelling). Another 9 percent (14) reached toward psychology in terms of self development and in understanding others. Mathematics generically and algebra, geometry, and trigonometry were selected by 6 percent of the participating employees.

In their answers to the second of these questions, 13 percent (20) indicated that they would apply themselves with greater diligence. Thirty percent (49) stated they would take more business courses. The concentration of these responses, however, favored two traditionally non-business disciplines: Mathematics (including algebra) 12 percent (19) and English (including speech and spelling) 11 percent (17). Bookkeeping was selected by 11 percent (17) and shorthand was chosen by 7 percent (11).

Job Profiles

The first approach to the profiling problem was to make the open-ended request, "Briefly describe what you do in a typical day." Table 12 is a summary of these responses.

TABLE 12

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL AS DESCRIBED IN RESPONSE TO AN OPEN-ENDED QUESTION

Cases (n)	34		45		18		34		4		25		(N) 160	
Activity/Duty	Acct Bkkr		Clerk (Off)		Clerk (Sls)		Secy		Steno		Adm Mgt		Total	
	No	%n	No	%n	No	%n	No	%n	No	%n	No	%n	No	%N
Adm (non-routine)														
Meet custmr, emplye probs	16	47	17	38	7	39	6	18	0	0	16	64	62	39
Train, suprvs, mntn morale	1	3	1	2	2	11	1	3	0	0	21	84	26	16
Ck, give credt rtg	1	3	3	7	2	11	3	9	0	0	0	0	9	6
Adm (routn srvc skl)														
Complete forms	14	41	21	47	3	17	21	62	4	100	14	56	77	48
Use telephone	7	21	20	44	4	22	23	68	2	50	3	12	59	37
File	13	38	18	40	0	0	12	34	3	75	2	8	48	30
Wrt reports, ltrs	13	38	14	31	0	0	8	23	4	100	5	20	44	28
Take care of mail	5	15	6	13	1	6	16	47	4	100	3	12	35	22
Mntn ordr, clnlins	3	9	2	4	16	89	1	3	0	0	2	8	24	15
Tk dict, m-trnscpn	0	0	4	9	0	0	17	50	3	75	0	0	24	15
Run duplicators	5	15	4	9	0	0	8	23	2	50	1	4	20	13
Be receptionist	1	3	8	18	0	0	10	29	1	25	0	0	20	13
Maintain equipment	0	0	0	0	0	0	0	0	0	0	10	40	10	6
Test prsnl, rcrds	0	0	1	2	0	0	7	21	1	25	0	0	9	6
Opn, cls off, shp	0	0	1	2	1	6	0	0	0	0	3	12	5	3
Keep appt calndr	0	0	0	0	0	0	3	9	1	25	0	0	4	3
Fincl (ac-bkg-rkg)														
Prepr acctg forms, pyrl, production rcrds, wrt cks	34	100	16	36	0	0	9	26	4	100	11	44	74	46
Rcrd trnsctns, pst	26	76	11	24	7	39	8	23	2	50	1	4	55	34
Audit, prf, verify	16	47	6	13	0	0	2	6	1	25	1	4	26	16
Budgt, cost, prepare tax repts	5	15	1	2	3	17	2	6	0	0	3	12	14	9
Mktg Fnctns, Money														
Receive money	8	23	13	39	10	56	9	26	1	25	10	40	51	32
Mk sls, fill ordrs	2	6	5	11	16	89	5	15	0	0	9	36	37	23
Pack stk, inv, shp	0	0	2	4	9	50	2	6	0	0	10	40	23	14
Adv. displ, sls pro	0	0	0	0	4	22	0	0	0	0	4	16	8	5

The second attack on the profiling problem was with structured questions requiring time allocation estimates. These summaries of characteristic activities and duties for each of the positions researched are found in Tables 13-18. A composite summary is presented in Table 19.

These activities or duties are arranged according to a weighted scale from those requiring the greatest amount of time to those requiring the least amount of time. The weighting scales, shown in the columnar headings, are arbitrary. The cumulative totals in the righthand column (TPT--Total Points) may serve at least as a guide in making relative judgments concerning lesson plan time allocations and/or emphases.

TABLE 13

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING ACCOUNTING-BOOKKEEPING PERSONNEL BY ACTIVITY/DUTY POINT TOTAL[1]

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Rcrd trnsctns, post data	59	12	25	15	4	3	0	688
Prepare wrkg pprs, stmts	37	1	7	9	1	17	2	175
Verify vouchers	20	2	7	9	2	0	0	172
Prepare custmr statements	17	3	3	1	1	9	0	145
Use telephone	9	3	3	3	0	0	0	132
File	9	3	3	3	0	0	0	132
Handle payroll details	11	2	4	0	2	3	0	112
Enter adj, clsg, rvrsls	43	0	0	9	1	25	8	97
Take care of mail	8	2	2	3	0	1	0	94
Make cash reports	13	0	6	5	1	0	1	84
Write reports	12	0	3	4	3	2	0	59
Reconcile bank stmts	15	0	1	4	1	9	0	47
Prepare tax reports	5	0	0	0	0	3	2	8

1. Tables 13-19 have the weighted column (TPT=Total Points) calculated by multiplying the frequency by the weight and adding these totals horizontally. Thus, the TPT for the Recording transactions and posting data activities are calculated this way: 12x30=360; 25x10=250; 15x4=60; 4x3=12; 3x2=6; 360+250+60+12+6=688.

TABLE 14

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING CLERICAL (OFFICE) PERSONNEL BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Use telephone	37	7	18	11	1	0	0	437
Complete forms, frm ltrs	52	7	10	21	10	4	0	432
Receive money, bank dep	43	8	10	16	6	3	0	428
Prepare custmr statements	33	4	14	9	4	2	0	312
Take care of mail	61	0	10	34	11	3	3	278
File	36	1	12	19	4	0	0	238
Verify vouchers	28	3	8	10	5	2	0	229
Write letters	25	0	9	10	5	1	0	147
Type, run stencils	31	0	3	12	6	7	3	113
Type statistical matl	19	1	3	2	4	7	2	96
Take machine transcrptn	5	2	0	2	1	0	0	71

TABLE 15

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING CLERICAL (SALES) PERSONNEL BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Make sales	17	15	0	1	0	1	0	456
Give info, hndl cmplnts	32	5	8	16	3	0	0	303
Receive money	13	7	3	3	0	0	0	252
Keep sales records	10	1	3	4	0	0	2	78
Phone delinquent accts	5	2	0	3	0	0	0	72
Take credit applications	6	0	1	5	0	0	0	30

TABLE 16 .

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING SECRETARIAL PERSONNEL BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Use telephone	48	5	11	31	1	0	0	387
Type, run stencils	51	2	16	21	5	6	1	332
File	31	1	16	13	1	0	0	245
Take dict, m-trnscptn	41	1	9	20	6	5	0	228
Use calculators	23	4	4	13	1	1	0	217
Write letters	30	1	7	16	4	2	0	180
Keep financial records	16	3	4	7	2	0	0	164
Take care of mail	24	1	4	19	0	0	0	146
Keep appointment calndr	21	1	6	11	2	1	0	142
Make transp, htl reserv	16	0	0	5	1	8	2	41
Supervise	6	0	1	3	1	1	0	27

TABLE 17

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING STENOGRAPHIC PERSONNEL BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Complete forms, frm ltrs	5	1	1	2	0	1	0	50
Use telephone	3	1	0	2	0	0	0	38
Type, run stencils	3	0	2	0	1	0	0	23
File	4	0	1	3	0	0	0	22
Take dict, m-trnscptn	4	0	1	2	0	1	0	20
Type statistical matl	3	0	1	1	0	1	0	16
Be receptionist	1	0	0	0	1	0	0	3

TABLE 18

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Give info, hndl cmplnts	38	12	7	15	4	0	0	502
Fill orders, dlvr, ship	20	6	7	3	4	0	0	274
Do prdctn, inv asnmts	15	3	2	6	2	2	0	144
Do sls, promo asnmts	14	2	3	4	3	2	0	119
Receive money	11	1	4	4	2	0	0	92
Take care of mail	12	0	1	11	0	0	0	54
Keep sales records	10	0	2	6	1	0	1	48
Verify vouchers	8	0	3	2	2	1	0	46
Take credit applctns	6	0	3	2	1	0	0	41
Phone delinquent accts	5	0	1	3	1	0	0	25
Operate dup machines	4	0	1	1	2	0	0	20
Complete form letters	2	0	1	1	0	0	0	14

The data in Tables 13-18 have been summarized in Table 19 to facilitate references for scheduling. Several small groups of students can sometimes be put together to justify a program that might not otherwise be feasible. This summary may be one helpful means to determine lesson plan content and time guides to the teacher whose circumstances require teaching a composite group in a class discipline approach.

TABLE 19

ACTIVITIES OR DUTIES PERFORMED BY BEGINNING
OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL
BY ACTIVITY/DUTY POINT TOTAL

	Activity/ Duty Total	--- Daily --- Over 3Hrs (30wt)	1-3Hrs (10wt)	Under 1Hr (4wt)	Weekly (3wt)	Monthly (2wt)	Yearly (1wt)	TPT
Use telephone	97	16	32	47	2	0	0	994
Give info, hndl cmplnts	70	17	15	31	7	0	0	805
Receive money, bank dep	67	16	17	23	8	3	0	772
Rcd trnsactns, post data	59	12	25	15	4	3	0	688
File	80	5	32	38	5	0	0	637
Take care of mail	105	3	17	67	11	4	3	572
Complete forms, frm ltrs	59	8	12	24	10	5	0	496
Type, run stencils	89	2	22	34	14	13	4	488
Prepare custmr stmts	50	7	17	10	5	11	0	457
Make sales	17	15	0	1	0	1	0	456
Verify vouchers	56	5	18	21	9	3	0	447
Write reports, letters	67	1	19	30	12	5	0	386
Take dict, m-trnscptn	50	3	10	24	7	6	0	319
Fill orders, dlvr, ship	20	6	7	3	4	0	0	274
Use calculator	23	4	4	13	1	1	0	217
Prepare wrkg pprs, stmts	37	1	7	9	1	17	2	175
Keep financial records	16	3	4	7	2	0	0	164
Do prodctn, inv asnmts	15	3	2	6	2	2	0	144
Keep appointment calndr	21	1	6	11	2	1	0	142
Keep sales records	20	1	5	10	1	0	3	126
Do sls, promo asnmts	14	2	3	4	3	2	0	119
Type statistical matl	22	1	4	3	4	8	2	112
Handle payroll details	11	2	4	0	2	3	0	112
Entr adj, clsg, rvrsls	43	0	0	9	1	25	8	97
Phone delinquent accts	10	2	1	6	1	0	0	97
Make cash report	13	0	6	5	1	0	1	84
Take credit applications	12	0	4	7	1	0	0	71
Reconcile bank stmts	15	0	1	4	1	9	0	47
Make transp, hotel resrv	16	0	0	5	1	8	2	41
Supervise	6	0	1	3	1	1	0	27
Prepare tax reports	5	0	0	0	0	3	2	8
Be receptionist	1	0	0	0	1	0	0	3

Equipment Used

Information relating to the kinds of equipment used, the extent and intensity of use, is found in Table 20. Capital expenditures for business equipment require justification based on use priorities. Time allocation within programs, courses, subjects, units must bear the scrutiny of relevancy. Data in Table 20 can provide a starting point in finding defensible positions based on sound evidence to support business equipment buying and time commitment decisions.

TABLE 20

BUSINESS MACHINES AND EQUIPMENT USED BY BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL

Machines/Equipment	Total (160) No	%N	%n	Over 3 hours No	%N	%n[2]	1 to 3 hours No	%N	%n	Under 1 hour No	%N	%n
Adding Machine	101[1]	63.1	100	27	16.9	26.7	31	19.4	30.7	43	26.8	43.4
Typewriter[3]	98	61.2	100	19	11.8	19.4	38	23.7	38.8	47	29.4	48.0
Photocopy Machine	59	36.9	100	2	1.2	3.4	5	3.1	8.5	52	32.5	88.1
Postage Meter	38	23.7	100	1	0.6	2.6	3	1.9	7.9	34	21.2	89.5
Calculator[4]	36	22.1	100	14	8.7	38.9	12	7.4	33.3	10	6.2	27.8
Postal Scale	34	21.2	100	1	0.6	2.9	2	1.2	5.9	31	19.4	91.2
Duplicator[5]	24	14.9	100	4	2.4	16.7	3	1.9	12.5	17	10.6	70.8
Switchboard	20	12.5	100	6	3.7	30.0	6	3.7	30.0	8	5.0	40.0
Envelope Opnr, Slr	18	11.2	100	2	1.2	11.1	3	1.8	16.7	13	8.1	72.2
Checkwriter	17	10.6	100	1	0.6	5.9	1	0.6	5.9	15	9.4	88.2
Bookkeeping Machine	11	6.9	100	7	4.4	63.6	2	1.2	18.2	2	1.2	18.2
Dating Machine	9	5.6	100	0	0.0	0.0	0	0.0	0.0	9	5.6	100.0
Transcribing Machine	8	5.0	100	5	3.1	62.5	2	1.2	25.0	1	0.6	12.5
Addressing Machine	4	2.5	100	0	0.0	0.0	2	1.2	50.0	2	1.2	50.0
Reproducer	2	1.2	100	0	0.0	0.0	0	0.0	0.0	2	1.2	100.0
Billing Machine	1	0.6	100	1	0.6	100.0	0	0.0	0.0	0	0.0	0.0
Copyholder	1	0.6	100	0	0.0	0.0	1	0.6	100.0	0	0.0	0.0
Shorthand Machine	1	0.6	100	0	0.0	0.0	0	0.0	0.0	1	0.6	100.0

1. There were 70 ten-key, 31 full-key machines, a ratio of 7:3.
2. Small "n"=machines or equipment used. The 27 who used an adding machine more than 3 hours daily were 16.9 percent of the 160 jobs (N) in this study, but they represented 26.7 percent of 101 (n) who reported using adding machines.
3. Electric typewriters were used in 69 cases--34 elite, 29 pica, 6 IBM Executive. The electric-manual ratio was 7:3. Manuals in use included 23 elite, 12 pica. The overall elite-pica ratio was approximately 3:2.
4. There were 16 printing, 15 key-driven, and 5 rotary calculators reported in use. This would be a 3:3:1 ratio set.
5. Duplicating equipment included 17 fluid, 6 stencil, and 1 offset.

Personnel Prospects and Practices

To gain some information that might point to shifts in educational needs, areas for emphases, additional opportunities for service, the supervisors of the participating employees were interviewed. As far as the jobs covered in this study are concerned, 90 percent (145) indicated that these jobs will continue in the next 1-3 years essentially as they are. Of the 5 percent who expected change, 50 percent (4 of the 8 responding in this category) expected more automation. Five percent of the supervisors gave no answer to the question.

In answer to "Do you plan to make changes in the requirements for entrance into this job?", 14 percent (16) gave an affirmative reply. In this group, 23 percent (5) indicated planning more educational requirements. Among those planning more educational requirements, 40 percent (2 of the 5) were expecting some automation knowledge and skills.

Screening methods used by these employers included: Interviews, 93 percent; reference checks, 80 percent; tests, 26 percent; school recommendations, 46 percent. The most commonly used test was for typewriting, 29 percent (12 of the 42 employers who test).

Sources identified as usually providing personnel were: High schools, 34 percent; state employment offices, 33 percent; walk-ins, 73 percent; classified ads, 13 percent; private agencies, 6 percent; and 26 percent also used other sources. In this latter category, 52 percent were referrals from employees, other employers, customers, business associates, and personal friends.

Supervisors' Judgments

These supervisors were asked in three open-ended questions to identify strengths in knowledge, skills, and attitudes and to rate these strengths on a scale of 1-5 with 5 being the strongest. They were also asked to suggest areas needing improvement. Table 21 summarizes these judgments, as reflected by those areas receiving ratings of 4 or 5, and the improvements suggested. Table 21 is shown on the following page.

TABLE 21

KNOWLEDGE, SKILLS, AND ATTITUDE STRENGTHS AND SUBJECTS OR PERSONALITY AREAS NEEDING IMPROVEMENT AS JUDGED BY SUPERVISORS

Knowledge, Skills, Attitudes	n	Strength No	%N	%n	Need Improvement	No	%N	%n
Knowledge					Knowledge			
English	93	58	36	62	English	26	16	28
Mathematics	81	52	33	41	Mathematics	14	9	17
Bookkeeping-Accounting	26	21	17	81	Filing	7	4	47
Filing	15	5	3	33				
Skills					Skills			
Typewriting	106	60	38	57	Typewriting	14	9	13
Adding machine, calculator	74	51	32	69	Adding machine, calcu	9	6	12
Shorthand	14	9	6	64	Shorthand	5	3	46
Cash register	12	9	6	75	Cash register	3	2	25
Duplicator	8	7	4	88				
Bookkeeping machine	7	6	4	86				
Attitudes, Traits					Attitudes, Traits			
Dependable	46	44	28	96	Human relations	17	11	37
Cooperative	41	37	23	90	Productivity	13	8	28
Honest	38	37	23	97				
Willing to work	36	34	21	94				
General attitude	36	32	20	89				
Personality	36	30	19	83				
Initiative	32	25	16	78				
Loyalty	24	21	13	88				

NOTE: There were 93 supervisors who made judgments concerning relative strengths of their employee's English. They cited 58 as having above average or superior strength in English. This was 36 percent of all who were in the study and 62 percent of all about whom an evaluative statement in English was made. There were 26 cases in which the supervisor said that improvement in English was needed. This represented 16 percent of all employees included in the investigation and 28 percent of all those about whom an evaluation of English knowledge was made.

Curricular Suggestions

Supervisors of beginning employees have to cope with many of the inadequacies in knowledge, skills, and understandings that place limitations or pose handicaps for new workers. For this reason, their suggestions for ways to prepare better beginning business employees were sought. A synthesis of their suggestions is offered in Table 22.

TABLE 22

SUPERVISORS' SUGGESTIONS TO IMPROVE PRESERVICE PREPARATION OF BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL

Suggestions for Emphasis	Number Making Suggestion[1]	Percent of all Supervisors Interviewed	Percent of all Suggestions Offered
English (grammar, speech, spelling)	48	30	23
Human Relations	48	30	23
Mathematics	23	14	11
Cooperative Business Training	20	13	9
Cost Concepts	14	9	7
Economics	13	8	6
Adding Machines, Calculator	11	7	5
Typewriting	10	6	5
Filing	9	6	4
Shorthand	6	4	3
Improved Earlier Guidance	4	3	2
Others (salesmanship, law, financing)	4	3	2
	210		100

1. Because some supervisors offered more than one suggestion, there are 210 "supervisors' suggestions" for the 160 supervisors in this study.

CHAPTER V

ANALYSIS

As a framework for conceptulizing the business occupational profiles, the data were examined in terms of three major business functions. The fourth major function (Production) was used within broad boundaries of Administration, Finance, and Marketing. Using the functional categories to examine activities or duties in terms of relative frequencies in each of the six positions studied can increase the commonalities. Which common knowledge, skills, and understandings will remain will depend upon the arbitrary frequency or time-use point system criterion imposed. Acknowledging that there is no "rightness" or "wrongness" in whatever cut-off point is used, but cognizant that time is not usually available to educate for every experience encountered, the investigator has used 10 percent as the minimal inclusion frequency for this analysis. Thus, if an activity or duty has a frequency of at least 10 percent in any of the 6 positions studied, that activity or duty has been considered.

Administrative Activites (Non routine Services, Skills)

These kinds of activities, which included meeting customer and employee problems, training new personnel, supervising, maintaining morale, checking and giving credit ratings, were found in 5 of the 6 positions studied. Only the stenographers in this investigation did not report being involved in any of these duties.

The integration of knowledge, skills, and understandings essential to the successful handling of these duties demands creativity, imagination, and initiative in the use of judgment. Some broad and detailed understandings of operations, some fundamental knowledge of basic psychological principles, an insight into motivations--these are some of the educational experiences needed to meet and to grow in competence in the handling of these problems. No attempt has been made to weigh these various activities or duties according to some "difficulty factor." Nevertheless, the fact that these tasks were found in 60 percent of the jobs analyzed, but represented only 13 percent of the reported activities (by frequency count, not time), is an inadequate basis on which to render a value judgment concerning their importance. Perhaps an analogy would be helpful to appreciate the point. The take-off and landing of an aircraft usually consume a minor fraction of the total flight time. Yet, it can be readily seen that the percentage of total time involved in getting the aircraft safely up and safely down bears no relationship to the value of those activities in terms of the total function.

The critical character of meeting (or failing to meet) customer and employee problems, properly training new employees, maintaining morale, and making appropriate credit evaluations suggests an importance or value considerably disproportionate to the frequencies of the reported activities.

Administrative Activities (Routine Services, Skills)

The basic pattern of these duties was to follow usually well-established policies and procedures. Completing forms, using the telephone, filing, taking care of the mail, writing letters and reports, maintaining orderliness and cleanliness, taking dictation and/or machine transcription, running duplicators, being a receptionist, maintaining the equipment, giving personnel tests and keeping personnel records, opening and closing the office or shop, and keeping an appointment calendar were the principal broad descriptions of the kinds of activities involved. Some of these activities were found in all of the cases studied.

Meeting the responsibilities entailed with these tasks would be dependent upon a basic ability to follow instructions and to have a solid foundation of business communicative, manipulative, and recording skills. Of all the duties reported in this study, the routine administrative services represented 50 percent of the frequencies. These 13 categories of responsbilities are essentially the repetitive kinds of jobs that constitute the bulk of the day-to-day administrative chores.

Financial Duties (Accounting-Bookeeping)

Essentially, these responsibilities were met through the preparation of accounting forms, including payroll and production records, writing checks, recording transactions, posting data, auditing, proofing, verifying, developing budgets, determining costs, and preparing tax reports. While all positions and jobs studied had at least some activities that required or contributed to financial data inputs in some form, only an estimated 25 percent of the activities required a working knowledge or a competency in the traditional double-entry bookkeeping or accounting.

Although this is frequently classified as a distinctively different function from administration for general organizational purposes, the fundamental knowledge, skills, and understandings involved have much in common. There is a need to know and understand the value of accuracy. There must be skillful handling of informational details. The contributions to minimizing costs which neatness and orderliness make are essential understandings reflected in the way task responsibilities are met. In aggregate, the financial reporting-recording activities comprised approximately 22 percent of the duties found in this investigation.

Marketing Functions and Money

Among the various tasks included in this function were making sales, wrapping, filling orders, packing stock, checking and maintaining inventory, shipping, preparing advertising, display, and sales promotional materials, and receiving money. Some of the marketing-related functions were found in 5 of the 6 positions investigated; the stenographers reported no activities in this category. However, money handling was a duty found in all positions included in the study. These broad duties were in 57 percent of the 160 jobs.

In making sales, in creating displays and sales promotional materials, there is in common with those who meet the non-routine administrative responsibilities the need to know some basic psychological principles. Having an understanding of motivations is needed, if these marketing problems are to be handled skillfully. Since imagination and initiative are critical factors in successfully coping with sales and promotional problems, such capabilities are also required. The remaining duties in this cluster can be met by the employee who has learned to follow instructions, to write legibly, and to use a modicum of judgment. The marketing-related functions and the handling of money were approximately 15 percent of the activities reported in the job descriptions given by the employees interviewed.

Basic Knowledge, Skills, Understandings

As these jobs were analyzed to identify common characteristics fundamental to the various duties and responsibilities, it was found that 95 percent of the time was devoted to four kinds of activities. With the activity and time components combined these were: Communicating, 30 percent, found in all positions examined; calculating-checking-verifying, 27 percent, found in all positions; recording, 25 percent, found in all positions; filing-sorting, 13 percent, found in 5 of the 6 positions investigated (excluding clerical-sales). The only other cluster of activities which seemed to have some basic factor common to the duty involved is a kind of "putting out fires" category. These were the special production, sales, and promotional assignments found only in the administrative or management trainee category. They accounted for approximately 2 percent of the activity-time factors analyzed. These activities seemed to require a basic analytical and interpretive capability, with operational understandings of both human and mechanical factors.

A summary of the foregoing analysis of 97 percent of the reported activities weighted for time expenditures is found in Table 23.

TABLE 23

BASIC KNOWLEDGE, SKILLS, UNDERSTANDINGS
COMMONLY REQUIRED FOR ACTIVITIES
OR DUTIES PERFORMED BY BEGINNING
OFFICE AND ADMINISTRATIVE OR
MANAGEMENT TRAINEE PERSONNEL

Knowledge, Skills, Understandings	Percent of Jobs	Percent of Total Job Time
Communicating	100	30
Calculating, checking, verifying	100	27
Recording	100	25
Filing, sorting	84	13
"Putting out fires"	16	2

Business Machines

An analysis of the composite inputs relevant to the kinds and extent of use of business machines and equipment suggests priorities. With the digital skill development required to operate adding machines, typewriters, and calculators, and with some of the problems inherent to various duplicating processes, these units merit consideration in proportions differing from tabular implications that may be taken from Table 20. For 138 machine stations (adding machine-typewriter-calculator-duplicator=4 machine stations), there was reported an in-use time for 53 percent of these units from 1 to more than 3 hours daily. This kind of intensity of use would seem to justify skill requirements that meet definitive production standards. What those standards might be is a matter for further investigation.

Relevancy Criteria

These are the criteria suggested from an analysis of the 764 activities reported in the 160 jobs covering the 6 positions investigated in this study.

1. There should be an abundance of problem-solving materials, i.e., cases, "live ammunition," "doing" instead of memorizing or reciting, to aid high school business students to develop more fully their capabilities to deal with the human relations difficulties encountered with customers and fellow employees.

2. There should be from several sources, i.e., integrated, multi-disciplined courses, a growing development of the concepts and awareness of cost-consciousness, productivity, and the demands, rewards, and purpose of business.

These concepts should be taught by the way the program is structured as much or more than what the content may be.

3. There should be an opportunity for the high school student of business to learn some of the principles of psychology in a formal course in order to be equipped with a basic understanding of himself and others with whom he will have to deal.

4. There should be a greater emphasis on the communicative skills in high school. This includes both oral and written communicative efforts.

5. There should be an increased emphasis on the basic mathematical skill capability.

New Option in Business Education

Of the 764 activities or duties reported in this study, 144 (19 percent) came from the 25 beginning administrative or management trainees. Twenty-four of these cases were young men. In terms of an analysis of what they were doing, 47 percent of their activities (time-weighted) were involved with solving operational problems, non-routine in nature. While most of these jobs were out of the traditional office setting, typically found at the lowest management echelons in the plant, shop, or store, there were some routine administrative, financial, and marketing-related functions for which these employees were responsible. These time-weighted activities were: Administrative (routine), 7 percent; financial, 11 percent; marketing-related, 35 percent.

Out of an analysis of these data has come a concept for a new program: Training for Realistic Action by Concentrating on Kinetics (T R A C K IV--Management) through Business Operational and Administrative Training (B O A T). The details for this program are the data for another study.[1]

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1. R. Frank Harwood, Assisting Local Schools in Modifying Their Business Education Programs, University of Mississippi, 1972.

CHAPTER VI

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

The data for 160 jobs covering 6 different positions with 112 employers were gathered in 428 executive-employee-supervisor interviews in a 21-county area in North Mississippi.[1] More than half (53.1 percent) of these employers had fewer than 50 employees, and more than half (58.7 percent) had fewer than 10 beginning office and/or trainee personnel. Three out of four jobs described in this study are held by women. However, 24 of 25 positions in the administrative or management trainee category are filled by men. The modal age of the employees interviewed was 20, the median 23, the mean 21. Typically, the case included in this study was a high school graduate who had been on the current job for 6 months (mode), 14 months (median), 18 months (mean).

TABLE 24

A SUMMARY OF ACTIVITIES OR DUTIES OF BEGINNING OFFICE AND ADMINISTRATIVE OR MANAGEMENT TRAINEE PERSONNEL BY FUNCTIONAL CLASSIFICATION

Activity/ Duty	Percent of Positions N=6	Percent of Jobs N=160	Percent of Activities N=764
Administrative (non-routine) Meet customer and employee operational problems.	84	60	13
Administrative (routine) Follow established information gathering, distributing, reporting, storing, and other policies or procedures.	100	100	50
Financial (accounting) Prepare accounting and production records, plus cost control and tax reports.	100	100	22
Marketing and Money Sell and meet related marketing responsibilities; receive money.	100	56	15
			100

1. One geographical exception is noted for a position in Charlotte, NC.

Time allocations in the use of basic knowledge, skills, and understandings, shown in Table 23, to fill responsibilities in the 6 positions studied were: Communicating, 30 percent, all positions; calculating-checking-verifying, 27 percent, all positions; recording, 25 percent, all positions; filing-sorting, 13 percent, 5 of 6 positions (excluding clerical-sales); "putting out fires" (special production, sales, and promotional assignments), 2 percent, found only in the administrative or management trainee positions.

The in-use time for 53 percent of the adding machine-typewriter-calculator-duplicator stations, 138 of the 259 reported units, was in the "1 to more than 3 hours daily" categories.

Among the knowledge, skills, and understandings employees said they now needed that were not acquired in high school, the following were identified: Communication, 24 percent of all the cases in the study (N=160); accounting-bookkeeping-recordkeeping, 22 percent; how to deal with people, 21 percent; how to operate business machines, including calculators, 21 percent; a better understanding of the demands and rewards in business, 46 percent; and a better understanding of the purpose of business, 30 percent.[1] Of 150 employees for whom high school curriculum information was given, 92.6 percent were in business and vocational-technical courses (Table 6).

Employee strengths identified by their supervisors included English (36 percent of the cases, N=160), mathematics, (33 percent), typewriting (38 percent), adding machine-calculators (32 percent). While all who rated attitudes (see Table 21) gave relatively high strengths to the attitudes and traits each supervisor selected to characterize his employee in this open-ended question, only approximately 36 percent gave any meaningful input.

Thirty percent of these supervisors suggested to improve preservice preparation in communicative knowledge and skills (grammar, speech, spelling) and human relations.

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1. Additional emphasis on the need to understand the necessity for productivity was underscored on 6 May, 1972, in a symposium comprised of 5 of the research associates, plus a special guest. This group (Anderson, Cole, B. L. Rieves, Lane, White, plus M. Crawford, and the project director) represented inputs for 84 of the 160 jobs analyzed.

Conclusions

Based on the analyses of the activities and duties of the 6 positions investigated, according to functional categories and in terms of basic knowledge, skills, and understandings, these conclusions are made.

1. Very early in the beginning office and administrative or management trainee experiences of many young people there is a need to know how to cope with business operational problems that affect and concern customers and employees.

2. The "housekeeping chores" for information handling--gathering, reporting, distributing, storing--and other administrative responsibilities cut across all of the kinds of positions investigated and consume major segments of time. To perform the duties involved with dispatch requires knowledge, skills, and understandings of business machines, forms, and systems.

3. In all of these beginning and trainee positions, there is a need to know something of the importance of and how to provide information essential to the financial records, including in many instances data relevant to cost controls and tax reports.

4. For a large segment (more than half) of those in the positions studied, it is advantageous to have a marketing orientation to facilitate an understanding of the importance of sales and their essential supporting services. For some, of course, knowledge and skills in the mechanics of selling, delivery, and inventory are critical to their positions. All need to be familiar with business money handling and accounting procedures.

5. Among all these positions investigated, there was a common need for communicative, calculating-checking-verifying, and recording skills. Because the use of these skills to meet job responsibilities in the aggregate accounted for more than four-fifths of the time (the equivalent of more than four days out of five), these kinds of educational disciplines are concluded to be the principal foundations on which success in these positions must primarily rest.

6. The sizeable employee group (46 percent) who expressed a need for a better understanding of the demands and rewards in business and those 30 percent who identified a need for a better understanding of the purpose of business provide evidence for a service conclusion. There is an opportunity to facilitate part of the adjustment from high school to

employment by providing realistic experiences that will enable the student to learn the economic facts of life with a business perspective.

7. The fact that one of the positions in this study revealed a predominance of males (business or administrative trainees, 24 men, 1 woman) who are dealing with business management operational and administrative problems--men, money, machines, materials, markets--points to another service conclusion. Business educators in high schools can serve some currently unmet needs, if they will broaden their programs beyond the limited scope of office education. As an essential corollary, college and university educators who have undergraduate or graduate business education majors can serve their students by broadening their perspectives (their own and their student's) and by helping their students to prepare programs to meet these opportunities.

Recommendations

Individual members in each of four professional groups can take the findings in this limited investigation to use as a starting point to examine, explore, and expand the opportunities that these basic concepts suggest. These groups include high school business educators, college and university business education faculty, publishers, and other researchers.

There are at least three other groups who share a common interest in developmental education for a variety of reasons. The business community has a vital stake in the capabilities acquired by students in high school. Federal, state, and local governmental units are importantly affected by the tax-paying abilities of all citizens. Finally, private foundations are committed to investigate and/or support those endeavors that hold possibilities for the improvement of the welfare of mankind. For different reasons, each group is looking for and interested in ways that will increase the individual worker-citizen's productivity. Because the findings in this study are a means toward that end, recommendations for each of these important entities are also made.

A. High School Business Educators

1. It is recommended that colleagues in this group engage in some mini-research projects in their own communities to examine whatever possibilities there may be for an initial course offering aimed toward helping students learn to solve business-related human relations problems. Tailor-making the experiences from local, on-the-scene materials should move very close to the relevancy target.

2. It is recommended that business teachers exercise leadership within their high schools to invite other vocational and academic discipline specialists (English and mathematics teachers initially) to emplore the possibilities of a team effort aimed toward improving the productive capabilities and understandings critically essential to the continuing health and growth of our free enterprise system.

3. It is recommended that the opportunities to expand and improve business education in logical areas--principles of psychology (with an abundance of practical business applications), communication, mathematics (applied to business)--be pursued vigorously.

4. It is recommended that there be a concerted effort to develop an increased number of management-oriented subjects that can attract young men into business education.

B. College and University Business Education Faculty

1. It is recommended that these educators examine present curricular requirements for undergraduate and graduate programs in business education to ask and seek answers to these questions.

    a. "How can our programs broaden our student's thinking to include the functions of business which reach beyond administrative and/or office services?"

    b. "How can our programs help our students to develop courses that will be attractive to young men in high school?"

2. A recommendation is offered to explore the possibilities to get funds for a workshop to aid high school teachers in the development of programs with an administrative and business operational appeal to young men.

3. It is recommended that the academic options available to graduate students be expanded to include financial, management, marketing, and production courses that could provide appropriate foundations and backgrounds for high school business teachers to feel secure and competent in broadening their programs.

C. Publishers

1. It is recommended that publishers examine this potential market, one dimension of which may be seen in terms of dropouts. Mississippi is losing approximately 37 percent of its high school students between the 9-12th grades (1960-68).[1] Some of these could be prospects for a high school management concept program. Naturally, their needs for texts and educational materials would extend beyond just those for the special developmental courses into areas served by existing texts.

2. A recommendation is made to explore this concept with some of the authors already under contract or to expand writing teams to include those who can develop appropriate materials that will serve a market that needs to be cultivated.

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1. Statistical Data Bulletin, State Department of Education.

D. Other Researchers

1. A recommendation is made to examine the concepts of this study in other geographical areas where economies are comparable. Replication of the investigation in three to seven other markets could serve a number of purposes.

E. Business

1. It is recommended that business examine the concept of a new option in business education to consider its prospective cost implications in hiring and training high school graduates.

2. A recommendation is offered to explore the feasibility of a cooperatively developed program at the local level.

3. It is recommended that the business community participate in funding a pilot program to encourage the necessary development of essential teaching materials and to provide a format to expand the concept.

F. Governmental Units

1. It is recommended that each appropriate level of government--federal, state, county, city--examine the tax-producing, welfare-saving implications in the successful development of a new option in business education.

2. It is recommended that a joint-funding appropriation be made to explore the concept through pilot operations.

G. Foundations

1. A recommendation is made that the management option in high school business education be examined for its prospective contributions to the nation's productivity, its tax-revenue producing capabilities, its dole- and welfare-saving possibilities, and the cultural and social advantages of helping to keep young men in high school.

2. It is recommended that limited funds be made available on a joint basis with other agencies to explore through a pilot program the viability of this concept.

CHAPTER VII

CLOSING STATEMENT

School dropouts become economic and social problems with a multitude of ramifications. It would seem that some of the dropout problem could be reduced, however. Of those who dropped out in the 9-12th grades in Mississippi in 1966-68, 20 percent were reported as having discontinued school because they: 1. Disliked school; 2. Had academic difficulty; 3. Developed behavioral problems; or 4. Found a lack of appropriate curriculum.[1] New programs with a different interest appeal, structure, and degree of relevancy could remove some of these reasons for some of the prospective dropouts. This same basic theme was reiterated by Gene I. Maeroff, quoting Dr. Hyrum Smith, head of the anti-dropout program, USOE, "Changing the educational system is what keep kids in school."[2]

School superintendents seem genuinely willing to cooperate in finding solutions to the problem. In May-June, 1969, 22 of 27 superintendents interviewed in systems throughout the state (Mississippi) gave positive evidence of endorsement and support of an action-oriented research program aimed at the dropout problem.[3]

Yet for all the hue and cry of meeting student needs heard and read so many times in so many places, the dropouts give evidence that their needs are not being met. As Paul Harvey wrote in a recent editorial, "...it is 'need' which determines the greatest opportunities and the highest rewards..."[4]

Rivarol once wrote, "Ideas are a capital that bears interest only in the hands of talent." This concept, the idea of developing a business administrative and operational training program at the high school level for prospective management trainees, merits being placed in the crucible of the market for a five-year test cycle. This capital idea will produce interest and attract talent.

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1. School Dropouts by Reason, 1966-67 and 1967-68, State Department of Education.

2. Gene I. Maeroff, "New Hard Look Is Taken At Penalties Life Imposes On High School Dropouts," The Commercial Appeal, May 11, 1972, p. 28.

3. R. Frank Harwood, "WANTED: Partners To Work A Gold Mine," Business Education Forum, November, 1970, p. 50.

4. Paul Harvey, "Educators Shifting Gears: Back to the skills," The Oxford Eagle, June 8, 1972, p. 6A.

Whether or not Marland's statement, "...80 percent of the jobs in the coming decade will not require a degree,"[1] proves to be a reasonably accurate estimate, there is little to debate about the value of staying in high school through graduation. It is in this vein that there can be capital in the idea of a broader option in business education to attract and hold more young men in school. Whether such "capital" can bear interest may be more the matter of will power than any other capability. To those for whom a torch may have been lit, this theme is intended. "Your <u>will</u> power becomes the <u>can do</u> power that <u>does</u>! The business courses you develop can start a revolution in <u>your</u> community in <u>your</u>....school because your imagination, initiative, and ingenuity ignited the spark...You can do it! Through some of the lives of the young men you can reach in male-oriented business courses you can affect eternity--and find greater professional fulfillment."[2]

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1. S. P. Marland, Jr., "Career Education: Every Student Head for a Goal," <u>American Vocational Journal</u> 47, March, 1972, p. 36.

2. R. Frank Harwood, "If You Have the Will..." <u>The Balance Sheet</u>, October, 1971, pp. 66, 69.

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